UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,876	12/02/2003	Yukio Kadowaki	6453P017	5417

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ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/726,876	KADOWAKI ET AL.
	Examiner	Art Unit	
	Yuzhen Ge	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>29 November 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-7</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-7</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Examiner's Remark

Applicant's amendment, filed on Nov. 29, 2007, has been received and entered into the file. The objection to specification, 112 2nd paragraph of claim 7 and 101 rejections of claim 6-7 have been overcome in view of applicant's amendments/remarks and are hereby withdrawn.

Regarding applicant's argument with respect to claim 5 about the examiner's statement that "well-known software such as Adobe Photoshop also informed users in case of errors", the examiner would like to provide two snapshots of screens that Adobe Acrobat informs a user of an error of opening a file when the user tries to open a WORD document from Adobe Acrobat file open menu. The examiner would also like to point out that there are many error messages to users from software such as Microsoft Word, Adobe Acrobat readers, and Adobe Photoshop, etc. It would be impossible not to see any error messages from well known software.

The Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Objections

1.   Claim 7 is objected to because of the following informalities: it is basically the same as claim 6. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2.   Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JPEG 2000 Image coding system Part 1 (Annex D.5, J.7 and J.14, ISO/IEC 15444-1, 1st Edition, 2000-12-15, hereafter referred to as 15444-1) in view of Watkins (US Patent 6,337,710 B1), further in view of Chai et al (US Patent 6,553,142).

Regarding claim 1, 15444-1 teaches an image processing apparatus, comprising:

a reading unit to read distortion amount information showing how much a decoded image is degraded from an original image when data are eliminated from a data sequence, the distortion amount information being included in a code sequence in which the original image is compressed and encoded in accordance with a method capable of progressively displaying the image (Pages 213-215, Annex J.14, the distortion amount information D_i^n are embedded in the bit stream);

an error detecting unit to detect an occurrence of an error in each unit of the code sequence (Annex D.5, page 106, Annex J.7, the unit that detects the error or read the error is regarded as the error detecting unit);

a distortion amount calculating unit to calculate a distortion amount of the decoded image against the original image when the code sequence is decoded after the data are eliminated from the code sequence by using the distortion amount information concerning the data in which the data is discarded (Pages 217, Annex J.14.4.1, D_i^0 denotes the distortion incurred by skipping the code-block altogether).

15444-1 also teaches minimizing distortion while subject to a rate constraint (Annex J.14.3, Pages 215-216) and distortion evaluations when a code block is discarded (Annex 14.4).

However 15444-1 does not explicitly teaches the error detection is based on a location of an end of packet header marker and a comparing unit to compare the distortion amount calculated by distortion amount calculating unit with a threshold.

In the same field of endeavor, Watkins teaches calculating distortion and comparing to a threshold (Fig. 5, col. 5, lines 5-27, measurement of image quality is regarded as distortion). It is desirable to achieve an acceptable picture quality through compression and decompression and it is desirable to enable feedback of the system to the user in case of errors (col. 1, lines 23-45). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the method of Watkins to compare distortion with a threshold so that a certain picture quality can be assured.

Also in the same field of endeavor, Chai et al teach the error detection is based on a location of an end of packet header marker or the end of segment marker (col. 2, lines 10-13, the misalignment of the packets implies the end of packet header marker is not at the right location, col. 6, lines 55-67, Fig. 4, col. 7, lines 6-17, col. 7, lines 28-41, col. 8, lines 31-47, when the segment length is not right, then discard the data, when a segment marker is not the right location, the corresponding end of packet will not at the right position also). Furthermore, the concept of using the end of a segment marker to detect error is the same as using the end of a packet marker to detect errors and a segment in Chai et al can be also regarded as a packet because the claimed invention does not define what a packet header marker is and what a packet is.

It is desirable to improve error resilience and detect error efficiently (col. 2, lines 46-55 of Chai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the method of Chai et al to detect error based on a location of an end of packet header marker so that error resilience is improved and error detection is efficient.

Regarding claim 2, 15444-1, Watkins and Chai et al teach the image processing apparatus as claimed in claim 1. 15444-1 further teaches the apparatus comprising:

a decoding unit to decode the code sequence (Page 11, Annex J.14).

Watkins teaches

an outputting unit to output image data being decoded when the distortion amount is less than the threshold as a result of the comparing unit (col. 5, lines 2-27, the display halts only when error is detected).

Chai et al teach

a canceling unit to cancel the decoding unit to decode the code sequence so as not to output the image data being decoded (col. 3, lines 20-30, col. 7, lines 8-16, col. 8, lines 31-47, the coefficients are zero out and decoding is performed in this case, see the second "else" clause). It is desirable to be efficient when decoding. Not decoding the code sequence that does not satisfy the distortion criterion will save time and resource and only those code sequences that satisfy the quality requirement are decoded and outputted. Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to cancel the decoding of the code sequence so as not to output the image data being decoded so that time and resources can be better utilized.

Regarding claim 3, 15444-1, Watkins and Chai et al teach the image processing apparatus as claimed in claim 1. 15444-1 further teach wherein JPEG 2000 or Motion JPEG 2000 is applied to the method and the each unit of the code sequence is one packet as a unit in that the

occurrence of the error is detected and the distortion information is used (Annex J.14, Pages 214-215).

Regarding claim 4, 15444-1, Watkins and Chai et al teach the image processing apparatus as claimed in claim 1. 15444-1 further teach wherein the distortion calculating unit calculates a total distortion amount of the decoded image against the original image by accumulating the distortion amount of the each unit of the code sequence (Annex J.14, Pages 214-215).

Regarding claim 5, 15444-1, Watkins and Chai et al teach the image processing apparatus as claimed in claim 1. Watkins further teaches an informing unit to inform a user that the error occurred to the image, when the distortion amount is more than the threshold (col. 5, lines 2-27, Figs. 5-6D). Well-known software such as Adobe Photoshop also informed users in case of errors. It is desirable to let user be in control and provide user with flexibility of using the apparatus during decoding and encoding. Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the method of Watkins to inform a user that an error has occurred so that the user can react to the error.

Claims 6-7 are the corresponding computer readable medium claims of claim 1. 15444-1 teaches a computer readable medium (inherent from that JPEG 2000 is computer-implemented method, also for example, Adobe Photoshop). Also Watkins teaches a computer readable medium (col. 3, lines 1-9, Figs. 1-2). Thus 15444-1, Watkins and Chai et al teach claims 6-7 as evidently explained in the above-cited passages.

Conclusion

3.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The
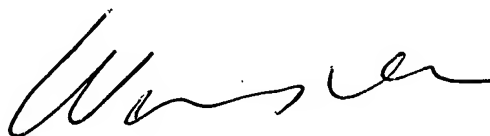
examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624

11/4/08

WENPENG CHEN
PRIMARY EXAMINER